AMENDMENTS TO THE SPECIFICATION

Please amend the title on page 1 as follows:

MAGNETIC TAPE APPARATUS INCLUDING A CIRCUMFERENTIAL SURFACE HAVING A GENERALLY FLAT PORTION BETWEEN PEAK PORTIONS AND METHOD FOR PRODUCING THE SAME

Please amend paragraph [0009] as follows:

~~In the meantime, the~~ The circumferential surfaces of the stationary drum 43, rotary guides 47 to 50, rotary guides 62 to 65, stationary guides 45, 46, and stationary guides 66, 67 used in the driving mechanisms in the rotary head type recording-reproducing apparatus and stationary head type recording-reproducing apparatus shown in FIGs. 12 and 13 are processed by grinding generally or processed by cutting using a lathe. FIG. 15 is a diagrammatic view schematically showing the form of a cross-section of the circumferential surface of the stationary drum 43, and the magnetic tape runs in the vertical direction from the paper surface and is in sliding contact against the circumferential surface of the stationary drum 43. Peak portions 53 are formed so that they individually extend in the circumferential direction of the stationary drum 43 having a substantially cylindrical form, and they are brought into contact with the magnetic tape. In addition, peak portions having the form similar to that of the peak portions in the stationary drum 43 are formed on the circumferential surfaces of the rotary guides 47 to 50, rotary guides 62 to 65, stationary guides 45, 46, and stationary guides 66, 67.

Please amend paragraph [0010] as follows:

As shown in FIG. 15, the peak portions 53 are formed so as to extend in the circumferential direction of the stationary drum 43 generally having a substantially cylindrical form, and a pitch a_3 and a bottom width

a_3' of the peak portions 53 are substantially equal. Therefore, as shown in FIG. 16A, when a compressive force F_2 that the upper edge 51a or lower edge 51b of the magnetic tape 51 receives from the lead 44, upper flange 47a, and lower flange 49b exceeds a static frictional force F_1 from the circumferential surfaces of the stationary drum 43 and rotary guides 47, 49, and thus exceeds a buckling strength F_3 of the upper edge 51a or lower edge 51b of the magnetic tape 51 before the magnetic tape 51 starts running, the upper edge 51a or lower edge 51b may suffer buckling to cause an edge damage. The magnetic tape 51 suffers an edge damage and reduces in tape width, so that the lower edge 51b of the magnetic tape 51 leaves the lead 44, thus making it difficult to achieve accurate and stable tracking. Further, the upper edge 51a or lower edge 51b suffering from a damage protrudes to lower the contact between the magnetic tape 51 and the stationary drum 43, causing too large a gap between the magnetic head [[3]] <u>42</u> and the magnetic tape ~~51~~. The gap causes output attenuation with respect to the signals recorded and reproduced on the magnetic tape 51.

Please amend paragraph [0046] as follows:

A ~~preferred~~ drum portion in the rotary head type recording-reproducing apparatus according to the present embodiment is ~~descried~~ <u>described</u> with reference to FIGs. 1 and 2. FIG. 1 is a diagrammatic view showing the structure of a drum portion 1 used in the rotary head type recording-reproducing apparatus, as viewed from the side of the apparatus, and FIG. 2 is an enlarged cross-sectional view of the circumferential surface of a stationary drum 4.

Please amend paragraph [0050] as follows:

As shown in FIG. 2, the peak portions 4a are formed so as to be separated by the flat portion 4b. The peak portions 4a and flat portion 4b

are formed so that the relationship: a' < a is satisfied, where "a" represents a distance between the ridges of the peak portions 4a, i.e., pitch of the peak portions 4a, and "a'" represents a bottom width of the peak portions 4a. A plurality of the peak portions 4a and flat portions 4b are alternately formed in the direction of the shaft of the stationary drum 4. When the flat portion 4b is formed between the peak portions 4a and the pitch a of the peak portions 4a is larger than the bottom width a' of the peak portions 4a as mentioned above, the number of the peak portions 4a per unit area on the circumferential surface 6 can be reduced without increasing an angle α of apex portions of the peak portions 4a. Thus, the total area of the meniscuses formed when the magnetic tape is in sliding contact against the circumferential surface 6 can be reduced. Therefore, the coefficient of static friction of the circumferential surface 6 of the stationary drum 4 can be lowered to prevent the edge of the magnetic tape from suffering a damage and improve the stability of tracking, as compared to the case where the peak portions 4a are formed at a predetermined pitch without forming the flat portion 4b. Further, formation of too large a gap between the magnetic tape and the stationary drum 4 can be suppressed, thus preventing the occurrence of a trouble, such as signal attenuation. In this example, the peak portions 4a and flat portions 4b formed on the circumferential surface 6 of the stationary drum 4 are described. However, when peak portions and flat portions similar to the peak portions 4a and flat portions 4b formed on the circumferential surface 6 of the stationary drum 4 are formed on the circumferential surface of the stationary guide or rotary guide for guiding the magnetic tape, the coefficient of static friction of the sliding portion, i.e., stationary guide or rotary guide can be similarly lowered, thus making it possible to suppress the occurrence of an unfavorable phenomenon, such as stick-slip. The flat portion 4b may be further cut to curve downwards as viewed in the ~~figure~~ figures (see e.g., FIGs. 4 and 6) as long as the flat portion 4b is formed between the peak portions 4a.

Please amend paragraph [0052] as follows:

Next, one example of a method for forming the peak portions 4a and flat portions 4b shown in FIG. 2 by cutting will be ~~descried~~ described with reference to FIGs. 3 and 4.

Please amend paragraph [0055] as follows:

Here, ~~the point to which the present inventor has been directed his attention for~~ the present invention is described with reference to FIG. 5. ~~The present inventor has paid attention to the fact that moisture~~ Moisture in air adsorbs onto a portion between the sliding portion, e.g., a guide or drum and the magnetic tape to form a meniscus, increasing the coefficient of static friction of the circumferential surface of the guide or drum. As shown in FIG. 5, moisture in air forms meniscuses 72, such as adsorbing water film, between a magnetic tape 51 and peak portions 71 formed on the circumferential surface of a rotary guide 47. As shown in FIG. 5, the peak portions 71 on the circumferential surface of the rotary guide 47 are formed so as to extend in the vertical direction from the paper surface. When the length of each meniscus 72 is taken as "m" and a unit length is considered in the vertical direction from the paper surface, the value of the length m of the meniscus 72 can be considered as a meniscus area m, and a product of the meniscus area m per one peak portion 71 and the number of the peak portions 71 per unit area corresponds to the total area A of the meniscuses per unit area. Specifically, the total area A of the meniscuses per unit area can be represented by formula (2) below. In the formula (2) below, A represents the total area of the meniscuses per unit area, m represents the meniscus area per one peak portion, n represents the number of the peak portions 71 per unit area, a represents the pitch of the peak portions 71, t represents the thickness of the meniscuses 72, b represents the surface roughness of the circumferential surface of the rotary guide 47, and α represents the angle of the apex portions of the

peak portions 71, and the meniscus area m and the number n of the peak portions 71 per unit area can be represented by, respectively, formula (3) and formula (4) below. For reducing the total area A of the meniscuses, lowering of the number n of the peak portions 71 per unit area can be thought. However, when the bottom width a' of the peak portions 71 is increased to lower the number n of the peak portions 71 per unit area, the angle α of the apex portions of the peak portions 71 becomes large, so that the meniscus area m per one peak portion 71 is disadvantageously increased. Therefore, even through the number n of the peak portions per unit area is lowered, the total area A of the meniscuses is difficult to be reduced, thus making it difficult to satisfactorily lower the coefficient of static friction.

Please amend paragraph [0060] as follows:

Next, ~~based on the point to which the present invention has been directed his attention,~~ the peak portions 4a and flat portions 4b formed on the circumferential surface 6 of the stationary drum 4 are ~~descried~~ described in more detail with reference to FIG. 6. FIG. 6 is a view showing a state such that a magnetic tape 15 runs so as to be slid against the ridges of the peak portions 4a. The magnetic tape 15 runs in the vertical direction from the paper surface of FIG. 6, and only a unit length of the magnetic tape 15 in the lateral direction in the figure is shown.

Please amend paragraph [0069] as follows:

Example 1

Next, the results of the measurement of coefficient of static friction with respect to the samples each having a circumferential surface on which peak portions and flat portions are formed are ~~descried~~ described with reference to FIGs. 7 to 9. The samples have a substantially cylindrical form, and the values of the coefficient of static friction of the circumferential surface were compared between the samples, which has

the circumferential surface on which peak portions and flat portions preferred in the magnetic tape apparatus of the present invention are formed, and the samples, which has a conventional form of the circumferential surface.

Please amend paragraph [0073] as follows:

Next, one example of a method for measuring a coefficient of static friction is ~~descried~~ described with reference to FIGs. 8A to 8C. FIGs. 8A to 8C are explanatory views showing how to measure a coefficient of static friction, wherein FIG. 8A is a view showing the construction of an apparatus for measuring a coefficient of static friction, FIG. 8B is an enlarged view of a sample positioned in the apparatus shown in FIG. 8A and the vicinity of the sample, and FIG. 8C is one example of a graph schematically showing a tension value against a strain gauge moving distance.

Please amend paragraph [0074] as follows:

A static friction coefficient measurement apparatus 30 shown in FIG. 8A is a measurement apparatus generally used for measuring a coefficient of static friction of a sample 35, and has a strain gauge 32, an extension spring 33, a sample supporting portion 37, and a pedestal portion 31 having mounted thereon and supporting them. As shown in FIGs. 8A and 8B, θ is an angle of winding a tape 34 around ~~round~~ a sample 35. [[A]] The sample 35 to be measured is supported by the sample supporting portion 37, and a measurement is conducted in a state such that a tape 34 is disposed so as to be in contact with the circumferential surface of the sample 35. The tape 34 is wound round the circumferential surface of the sample 35 having a substantially cylindrical form in a state such that one end of the tape 34 is connected to the extension spring 33, and a weight 36 is connected to another end of the tape 34. Further, the strain gauge 32 is extended in the opposite direction

to the tape 34, i.e., direction of the right-hand side in the figure, and a maximum value T_{max} of a tension T of the extension spring 33 shown in FIG. 8C is applied to formula (5) below to determine a coefficient of static friction μs. N represents a load of the weight.